DOCUMENT RESUME

ED 379 540 CG 025 934

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TITLE Cognitive and Social Information Processing of Children in Violent Families.
PUB DATE Aug 94
NOTE 9p.; Paper presented at the Annual Meeting of the American Psychological Association (102nd, Los Angeles, CA, August 12-16, 1994). Document contains dark and filled print.
PUB TYPE Speeches/Conference Papers (150) -- Reports - Research/Technical (143)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Affective Behavior; Childhood Attitudes; *Children; Emotional Development; Emotional Response; Family Environment; *Family Violence; *Parent Influence; Prosocial Behavior; *Psychological Patterns; *Social Cognition; Social Development
IDENTIFIERS Childhood Experiences

ABSTRACT

While once thought to be oblivious to parental violence, child witnesses to parental violence are now considered to be at risk as victims of both chronic trauma and psychological maltreatment. The purpose of this study was to examine the relationships among childrens' parental violence history, cognitive skills, processing of social information, trauma reactions, and behavioral, school, and social functioning. Interviewees included mothers (n=68) and children aged 5-13 years divided approximately equally by gender and age group (5-7, 8-10, 11-13 years). Children fell into two parental violence witnessing groups: witnesses to parental violence residing in Battered Women's Shelters who were screened to eliminate personally abused children; and, children residing at home who had been screened for witnessing violence and abuse but had been exposed to a typical range of parental verbal conflict. Mothers and children completed several types of instruments. The results replicated previous studies in suggesting that child witnesses to parental violence experience greater deficits in functioning than nonwitnesses. They also suggest that while child witnesses were not showing deficits in processing nonsocial information, they were showing some difficulties in processing social information, being more likely to expect aggressive content. (BF)

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Cognitive and Social Information Processing of Children in Violent Families

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Poster presented at the meeting of the American Psychological Association, Los Angeles, CA, August 1994.

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Introduction

While once thought to be oblivious to parental violence, child witnesses to parental violence are now considered to be at risk as victims of both chronic trauma (Rossman et al., 1993) and psychological maltreatment (Hart & Brassard, 1990). Many studies report that child witnesses show elevated levels of internalizing or externalizing problems or both (e.g., Rossman & Rosenberg, 1992; Sternberg et al, 1993; Holden & Ritchie, 1991; Hughes et al, 1989; Jaffe et al., 1990; Fantuzzo et al., 1991). Several studies have found that school-age witnesses have lower levels of social competence (Jaffe, et al., 1986; Moore & Peplar, 1989), and more rigid and aggressive problem solving strategies (Rosenberg, 1984). Child witnesses also evidence lower school competence (Peplar & Moore, 1989; Wolfe & Mosk, 1983), particularly in the areas of reading and mathematics. The question arises as to what mechanisms that could account for such diverse difficulties.

One factor that emerges in the literature as promising for study in relation to these deficits is children's cognitive and information processing skills. Fish-Murray (1993) writes that "memory and logic..(are)..inseparable functions of the cognitive system critical to understanding the effect of trauma. ..the mechanisms involved ensure either adaptive or maladaptive growth... (p. 75)" Physically abused children were found to show weaker accommodation skills (i.e., abilities to adapt existing schemas to include new information), having more rigid schemas across multiple content domains (Fish-Murray et al., 1987). Piaget (1962) argued that information that was not accommodated would be dissociated, rendering it less available for learning. Weiss et al. (1992) reported that boys from harsh physical punishment backgrounds showed greater aggression and maladaptive social information processing. More aggressive boys in inpatient treatment showed greater sharpening (i.e., quick and accurate detection of changes in a stimulus field) of aggressive information compared to less aggressive boys, although all boys showed greater leveling (slower, less accurate detection of changes) of aggressive than nonaggressive information (Santostefano, 1986). Abused and child witness preschoolers showed greater leveling of aggressive and nonaggressive information than nonabused children or nonwitness preschoolers, respectively (Rieder & Cicchetti, 1989; Rossman, 1992). Children who felt less in control of a threatening situation, as child witnesses do (Rossman & Rosenberg, 1992), showed attentional disengagement and less accurate processing of threatening cues than those who felt greater control (Bugental, 1993). In sum, evidence is accumulating to suggest that there may be important connections between the development of cognitive functioning and repetitive trauma experience. Witnessing physical violence could alter the information processing capacities of children, placing them at a disadvantage educationally and socially. While the directionality of these relationships is not clear, they need to be studied as a first step toward building more causal understandings. The purpose of the present study was to examine the relationships among childrens' parental violence history, cognitive skills, processing of social information, trauma reactions, and behavioral, school, and social functioning.

Subjects and Method

Sixty-eight mothers and children aged 5-13 years divided approximately equally by gender and age group (5-7, 8-10, 11-13 years) and falling into two parental violence witnessing groups were interviewed: child witnesses to parental violence residing in Battered Women's Shelters who were screened to eliminate personally abused children (witnesses; 14 boys and 12 girls); and, children residing at home who had been screened for witnessing and abuse but had been exposed to a typical range of parental verbal conflict (nonwitnesses; 24 boys and 18 girls). The groups were SES similar, and approximately one-third of the children came from minority households. Mothers completed the following instruments: a demographic questionnaire; Conflict Tactics Scale (Straus, 1977); Child Behavior Checklist (CBCL, Achenbach & Edelbrock, 1983); and, PTSD Reaction Index (adapted from Pynoos et al., 1987). A second adult informant (Children's Counselor for Shelter children and father for nonwitness children) rated children on the PTSD Reaction Index and CBCL. Children completed

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the following: the Perceptions of Adult Conflict Tactics Scale (Dominguez, 1993); PTSD Reaction Index (Pynoos et al., 1987); Peabody Picture Vocabulary Test for verbal IQ; several accommodation skills tasks used by Fish-Murray et al. (1987); the Leveling/Sharpening Shootout task (Santostefano, 1986); and, responded to three brief videotaped adult-adult interactions. The first and third segments were of neutral interactions, with the second involving verbal conflict. Following each segment the child was asked to describe the setting and adult interaction (e.g., what was happening, what was in the room, what would happen after the scene, etc.). The first and third segments assessed informational inaccuracy before and after being exposed to adult conflict, and the second assessed inaccuracy for a conflictual interaction. Since there were significant ($p<.01$) SES and minority status group differences, these factors were covaried in all analyses. Verbal IQ did not differ between groups when these factors were covaried.

Results

Results of violence group (2) by age group (5-7, 8-10, 11-13 years) MANCOVAs (see Table 1) revealed that the witness group was significantly higher on PTSD symptoms (mother and other informant report), and internalizing and externalizing behavior problems (mother and trend for other informant), and lower on social competence (mother and trend for other informant), and marginally lower on school performance ($p<.08$). Father figure marital aggression and violence was significantly higher for the witness group than the nonwitness group (which had none) by both mother and child report. Mother and child report were significantly correlated ($r=.59$, $p<.00$). There were nonsignificant trends for the witness group to show greater leveling of aggressive information and more projective errors on the Leveling/Sharpening task, and they more frequently expected aggressive endings for all videotape interactions, with expectations being highest for both groups for the conflictual interaction. Groups were not significantly different in accuracy of reporting room details, or the content of the interactions, but accuracy did increase with age in both groups. For accommodation tasks expected increases in performance with age were noted, but group effects were not significant. Partial correlations (see Table 2) showed that while violence measures were related to poorer outcome as in previous studies, they were not significantly related to cognition. Interestingly the number of years the child had experienced parental violence was more consistently related to outcome than level of violence during the past year as reported by mother or child. Cognitive measures were unrelated to outcome, except for the tendency for behavior problems to be associated with the expectation of aggressive endings.

Discussion

These results replicate previous studies (e.g., Hughes et al., 1989; Holden & Ritchie, 1991; Sternberg et al., 1993) in suggesting that child witnesses to parental violence experience greater deficits in functioning than nonwitnesses, and greater PTSD symptomatology (Rossman et al., 1993). They also suggest that while child witnesses are not showing deficits in processing nonsocial information, they are showing some difficulties in processing social information, being more likely to expect aggressive content. While we cannot draw causal inferences given the correlational nature of the design, it seems reasonable to suggest that both educational and therapeutic interventions with child witnesses take into account at least two factors: that these children may be less accurate in processing socially relevant information; and, that interventions need to examine the schemas child witnesses utilize in assessing social situations. These findings are consistent with the finding of lower readiness to learn of abused preschoolers (Aber et al., 1989), and the work on aggressive biases (Dodge, 1991; Weiss et al., 1992), in suggesting that living in a violent family atmosphere home may influence children's abilities to learn and adapt socially.

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Table 1. Adjusted Means for Group Comparisons

Measure	Adjusted Group Means: Nonwitness	Witness	Sig.
PTSD (m)	1.44	2.91	.00
(o)	1.30	2.45	.00
CBCL-Internal. (m)@	.09	.36	.01
External. (m)	.14	.40	.01
Soc.Comp. (m)	7.73	5.49	.01
School Perform,	7.27	5.41	.08
Agg.&Violence (m)	.00	3.65	.00
(c)	1.00	2.48	.00
L/S Ratio	18.69	20.09	ns
Ave. % Children Giving Agg. Endings	.15	.51	.03

@SES and minority status were covaried; CBCL scores are raw score scale means recommended by Achenbach and Edelbrock (1983) for use in research involving nonclinical groups; m=maternal report, c=child report.

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Table 2. Partial Correlations Among Violence, Cognitive, and Functioning Measures

Measuree	Agg.& Viol.(m)	Agg.& Viol.(c)	Viol. Dura.	CBCL Inter.	CBCL Exter.	CBCL Soc.	Sch. Perf.	PTSD	Verbal IQ	L/S Ratio	Aggressive Endings Tape1	Aggressive Endings Tape2	Aggressive Endings Tape3	Correct Other Detail Tape1	Correct Other Detail Tape2	Correct Other Detail Tape3
Age	-18	-05	06	02	01	42a	07	-13	19	-60a	-01	31b	15	30c	46a	42b
Gender	00	-03	14	10	-06	12	14	03	-12	02	-18	28c	05	02	08	08
SES	80a	66a	62a	40a	52a	-30c	-56a	78a	-63a	26c	36b	11	24	-06	-18	-11
Minority	70a	59a	54a	18	25c	-09	-40b	66a	-54a	18	50a	12	08	-03	-06	-02
Agg/Viol(m)		59a	34b	11	22	-20	-25	68a	-13	09	13	09	18	-03	20	01
Agg/Viol(c)			33b	13	09	-09	-02	46	-03	04	12	09	25	13	22	05
Viol/Dura.				33b	24c	-16	-01	41a	-15	-08	00	13	08	16	23	10
Internal.					87a	-28c	-14	55a	20	-13	28c	18	05	03	17	06
External.						-31c	-32c	58a	22	-23	31b	29c	10	14	20	17
Soc.Comp.							20	-39b	-10	-10	-14	-10	17	03	-03	03
Sch.Perf.								-31c	09	21	-24	-02	-15	22	-25	02
PTSD									02	01	37b	22	23	29c	29c	05
Verb.IQ										-07	18	18	00	12	12	17
L/S ratio											-04	-24	-05	-27c	-32c	-44a

@Decimal points have been omitted; a=p<.001, b=p<.01, c=p<.05; about 8 coefficients would be expected to be significant by chance alone at the p<.05 level. All coefficients below the dotted line have had variance due to SES and minority status removed; m=maternal report, c=child report. Significance levels are appropriate for sample size for each coefficient.

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